



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JAN 10 2008

OFFICE OF  
ENFORCEMENT AND  
COMPLIANCE ASSURANCE

Dr. Jane Summerson  
EIS Document Manager  
Regulatory Authority Office  
Office of Civilian Radioactive Waste Management  
U.S. Department of Energy  
1551 Hillshire Dr., M/S 010  
Las Vegas, NV 89134

Dear Dr. Summerson:

In accordance with our responsibilities under Section 309 of the Clean Air Act and the National Environmental Policy Act, the Environmental Protection Agency (EPA) has reviewed the Department of Energy's (DOE) Draft Supplemental Environmental Impact Statement (SEIS) for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, NV (CEQ # 20070429).

Since the publication of the Yucca Mountain Final EIS in 2002, DOE has continued to develop the repository design and associated plans for its construction, operation, and closure. However, by law, only the U.S. Nuclear Regulatory Commission (NRC) can approve the construction, operation, and closure of the repository. For this reason, DOE has prepared this draft SEIS to permit NRC to adopt it, as appropriate, for NRC's decision-making process regarding the approval for this project. The intent is to update the analysis and potential environmental impacts of transporting spent nuclear fuel and high-level radioactive waste to the repository while considering the current repository design and operational plans.

Current plans include proposed surface and subsurface facilities that would allow DOE to operate the repository for spent nuclear fuel and high-level radioactive waste shipped from 72 commercial and four DOE sites in transportation, aging and disposal (TAD) canisters. The TAD canisters would be transported mostly by rail to the repository where they would be placed in waste packages for disposal and emplaced underground. DOE is also in the process of seeking NRC certification/approval for the TAD canister design for surface storage at commercial sites, transportation, and geologic disposal at the repository.

Based on our review of the draft SEIS, EPA offers the following comments.

## **Radiation Protection Standards**

It should be noted that because EPA's final public health and environmental radiation protection standards (40 CFR part 197) have not yet been finalized, EPA's review of the post-closure safety analyses in the SEIS was limited to the broader aspects of the analyses, such as the characterization of EPA's proposed standards or the description of geologic or other processes at the site. Nevertheless, EPA recommends that DOE accurately reflect the language in the proposed standards. For example, on page 5-4 of the SEIS, Section 5.1.1, DOE states "The proposed EPA standards require DOE to represent long-term climate using a probabilistic distribution for a constant-in-time but uncertain long-term average climate for Yucca Mountain specified by NRC." EPA's proposal does not require that long-term climate be represented by constant conditions; rather, EPA allows it to be represented in this way after finding that such a representation would simplify the analyses while still addressing the most important aspects of long-term climate change.

## **Seismic Activity**

Section 3.1.3.3, Modern Seismic Activity (pages 3-22 and 3-23), discusses the nature of seismic activity in the region around Yucca Mountain. DOE notes that questions have been raised in recent journal articles regarding the differences in observed strain rates in the area versus forecasted rates (which form the bases for the design of the Yucca Mountain repository and forecasting its long-term performance), and whether these rates have been underestimated. If this is correct, the analysis of the potential for seismic (and volcanic) hazards could be underestimated. EPA recommends that the final SEIS explain how DOE will determine the appropriate strain rates to be incorporated in the conceptual seismic model.

In consideration of the abovementioned issues, and pursuant to our policies and procedures for conducting reviews of EISs pursuant to section 309 of the Clean Air Act, we have rated the draft SEIS as Environmental Concerns/Insufficient Information (EC-2). See enclosed "Summary of EPA Rating System".

We appreciate the opportunity to review this draft SEIS. We look forward to reviewing the final SEIS for this project. The staff contact for the review is Marthea Rountree and she can be reached at (202) 564-7141.

Sincerely,



Anne Norton Miller  
Director  
Office of Federal Activities

Enclosure